

REMARKS

Claims 1-9 are pending in this application. Claims 1, 4, 6, 8, and 10 stand rejected and claims 2-3, 5, 7, and 9 are objected to. In light of the remarks set forth below, Applicant respectfully submits that each of the pending claims is in immediate condition for allowance.

In numbered paragraph 4, the Examiner asserts that the Iwamura reference indicates that data from the memory is not used during a real time control of the acoustic system, which is interpreted to be in the same manner as the concept of the invention. (Col. 11, lns. 1-13). The Examiner further asserts that the claim language “does not restrict the use of the source characteristic being stored in a memory for correcting the loud speaker audio out-put characteristics.” Office Action at 4. Applicant disagrees with the Examiner’s assertions.

The cited portion of Iwamura states “there is no need for storing, in a memory or the like, all supposed characteristic patterns for fuzzy interference based on given decision factors, and the computation process is simplified, thereby enabling real time adjustment.” (Col. 11, lns. 9-13). This cited portion does not mean that there are no supposed characteristic patterns for fuzzy interfering stored but that not each and every possible characteristic pattern is stored. Thus, when the computation process is performed, the computation utilizes a characteristic pattern that is stored in a memory but, not each and every possible characteristic pattern is stored.

With respect to the Examiner’s assertion that the applicant’s claim language does not restrict the use of the source characteristic being stored in

memory applicants assert that, as explicitly recited in the claims, the processor generates a difference by comparing, in real-time a direct output from the microphone with an output signal from sound source. As such, the claim is limited to an apparatus whereby the source characteristics are not stored in a memory.

Claims 1, 4, 6, 8, and 10 is rejected as being anticipated by U.S. Patent No. 5,172,417 (Iwamura). Applicant requests reconsideration and withdrawal of this rejection.

Among the limitations of independent claim 1, which are neither shown nor suggested in the art of record

a processor for comparing in real time a direct output signal from the microphone with an output signal from a sound source with reference to a frequency characteristic and an echo characteristic of the sound regenerated from the loudspeaker, or a reverberation characteristic of the sound, including the delay time for the echo characteristic or the reverberation characteristic, *and correcting a signal from the sound source using the difference in output signal between the microphone and the sound source by reference to the frequency characteristic and the echo characteristic or the reverberation characteristic.*

To anticipate a claim under 35 U.S.C. § 102, the cited reference must disclose every element of the claim, as arranged in the claim, and in sufficient detail to enable one skilled in the art to make and use the anticipated subject matter. See, PPG Industries, Inc. v. Guardian Industries Corp., 75 F.3d 1558, 1566 (Fed. Cir. 1996); C.R. Bard, Inc. v. M3 Sys., Inc., 157 F.3d 1340, 1349 (Fed. Cir. 1998). A reference that does not expressly disclose all of the elements of a claimed invention

cannot anticipate unless all of the undisclosed elements are inherently present in the reference. See, Continental Can Co. USA v. Monsanto Co., 942 F.2d 1264, 1268 (Fed. Cir. 1991).

As illustrated in Figure 14, Iwamura discloses a an apparatus for controlling acoustical transfer characteristics including:

fuzzy surrounding processor 14 [that] takes in the audio input signal 11, measures the reverberation characteristics and performs fuzzy computation by using the actual reverberation characteristics and the desired reverberation characteristics as decision factors to change the characteristics of the low pass filters LPF1, LPF2, LPF3 and the delay circuits D1, D2 thereby obtaining the desired reverberation characteristics and effectively improving the presence based on the volume of the reproduced sound.

(col. 10, lns. 52-62). Iwamura measures the reverberation of the sound from the loudspeaker (11) and compares it to a desired reverberation (stored in memory 4) and adjusts the decision factors (in element 6) in order to obtain the desired reverberation characteristics. Thus, Iwamura compares an output of the loudspeaker to some predefined characteristic that is stored in memory.

Based on the disclosure in Iwamura the speaker out-put is always compared to a characteristic that is stored in memory. Because there are an almost infinite amount of characteristic patterns for fuzzy interference based on the decision factors, the Iwamura system does not store each and every predefined characteristic in memory. In fact, Iwamura states that there is no need to store in a memory all supposed characteristic patterns. The process is thereby simplified because only

select characteristic patterns are stored. However, at no time is the direct out-put signal from the microphone compared with an out-put signal from the sound source with reference to a frequency characteristic and echo characteristic in real time. Or, a reverberation characteristic of the sound including a delay time for the echo characteristic has recited in the applicant's claims.

In contrast, Applicant's claimed invention compares the output of the microphone and the actual original sound source that is driving the loudspeaker. Applicant's claimed invention is thus comparing the output of the loudspeaker to a completely different signal than that used in Iwamura. In Iwamura, the original sound source is designated as signals 19 and 20. These signals in Iwamura are never compared to the output of the microphone 11 as required by claim 1. Thus, Iwamura fails to disclose comparing the output of the sound source and the output of the microphone as recited in Applicant's claim. Thus, claim 1 is allowable.

Claims 4, 6, and 8 depend from, and contain all the limitations of claim 1. These dependent claims also recite additional limitations which, in combination with the limitations of claim 1, are neither disclosed nor suggested by Iwamura and are also directed towards patentable subject matter. Thus, claims 4, 6, 8, and 10 should also be allowed.

Therefore, it is asserted that the rejection of claims 1, 4, 6, 8, and 10 under 35 U.S.C. § 102 has been overcome. Reconsideration of the rejection of claims 1, 4, 6, and 8, under 35 U.S.C. § 102 is respectfully requested in light of the amendments and remarks above.

Applicant has responded to all of the rejections and objections recited in the Office Action. Reconsideration and a Notice of Allowance for all of the pending claims is therefore respectfully requested.

The amendments to the claims are for clarification purposes only and are not intended to limit the scope of the claims in any way. It is asserted that the present amendment places the application in a form for allowance. Entry of this amendment is therefore earnestly solicited.

If the Examiner believes an interview would be of assistance, the Examiner is welcome to contact the undersigned at the number listed below.

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Respectfully submitted,

By 

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